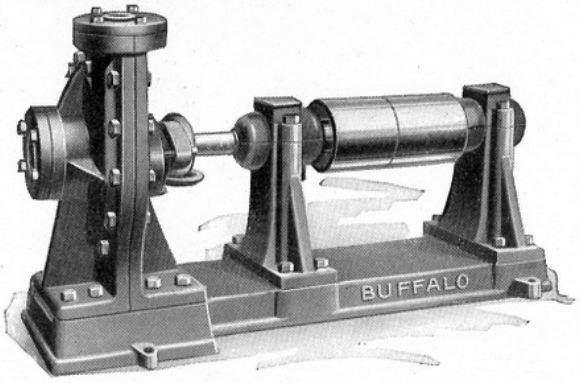
BUFFALO

Acid Pumps



Bulletin No. 958

Buffalo Steam Pump Co.

Buffalo, N. Y.

New York	Cleveland	New Orleans
Boston	Detroit	Atlanta
Philadelphia	Chicago	Minneapolis
Pittsburgh	St. Louis	Denver
Charlotte, N. C.	Los Angeles	Salt Lake City

Canadian Blower & Forge Co., Ltd.

Kitchener, Ont., Canada

Toronto Montreal Calgary Vancouver St. John.

Buffalo Acid Pumps

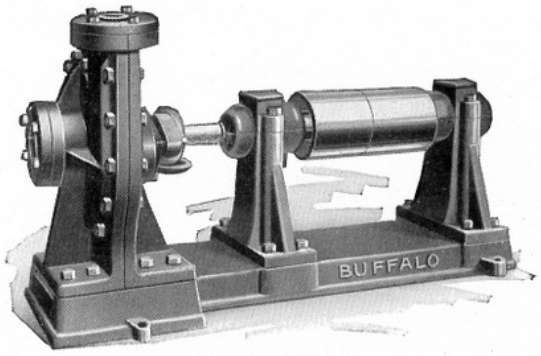


Fig. 965
Single Pump with Tight and Loose Pulleys

We manufacture Centrifugal Acid Pumps in sizes 1½″, 2″, 3″ and 4″ single and two stage. Pumps can be arranged for belt drive or for direct connection to motor.

Bearings are of the ring oiling type fitted with removable split bronze liners. Shaft is covered with material to suit conditions. Large thrust bearing is provided. Stuffing box is extra deep and special drip box is provided under gland to catch all leakage from pump. Do not tighten stuffing box too tightly, but allow pump to leak slightly into drip box. Shaft stuffing box packing which is generally used for corrosive acids is asbestos wicking saturated with kerosene and graphite. All details of design fulfil the requirements of hard, continuous service.

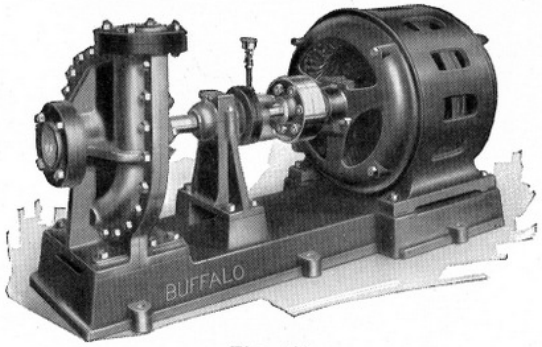


Fig. 969
Single Pump—Direct Connected to Motor

Iron pumps are recommended for strong sulphuric acid above 60 deg. Baume, and also for alkaline water and caustic lye solutions.

Lead pumps are recommended for weak sulphuric acid up to 45 or 50 deg. Baume, or if acid is cold up to 65 deg. Baume. If sulphuric acid is both hot and cold, ranging from 45 to 50 deg. Baume a lead pump will give the best all around service.

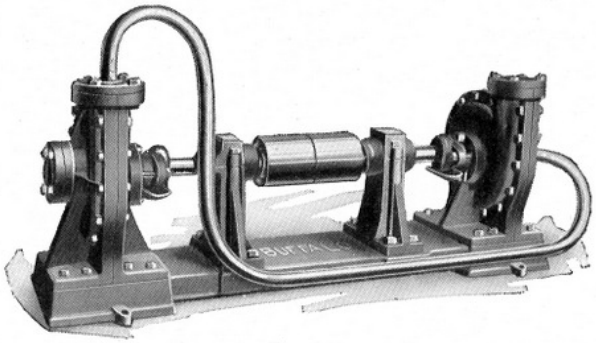


Fig. 966
Two Stage Pump with Tight and Loose Pulleys. Connecting pipe between stages furnished only on special order

Bronze pumps are recommended for copper sulphate.

Buffalo Centrifugal Acid Pumps can be made of Copper, Aluminum or other special metals best suited to requirements of the installation.

We are also prepared and equipped to design and build special pumps to suit users specifications as to type, material and method of drive. Our Engineering Department will be pleased to make recommendations to cover any requirements.

Buffalo Acid Pumps

SPECIFICATIONS

Casing: Divided on vertical center line. Made of material to suit conditions.

Impeller: Enclosed Acid type. Made of material to suit conditions.

Shaft: Steel. Covered with sleeve made of material to suit conditions.

Bearings: Ring Oiling. Removable split bronze liners.

Thrust Bearings: Ball bearing type. Mounted on outboard pedestal bearing on pulley pumps, and on pedestal bearing between pump and motor on motor driven pumps.

Stuffing Box: Extra deep.

Gland: Made of material to suit conditions. Special drip box is provided under gland.

Companion Flanges: Furnished on suction and discharge.

Pulleys: Cast Iron. Tight and Loose, or Tight only.

Coupling: Flanged. Flexible cannot be furnished.

Finish: Painted, filled and rubbed down. Bright parts exposed to weather protected by slushing compound.

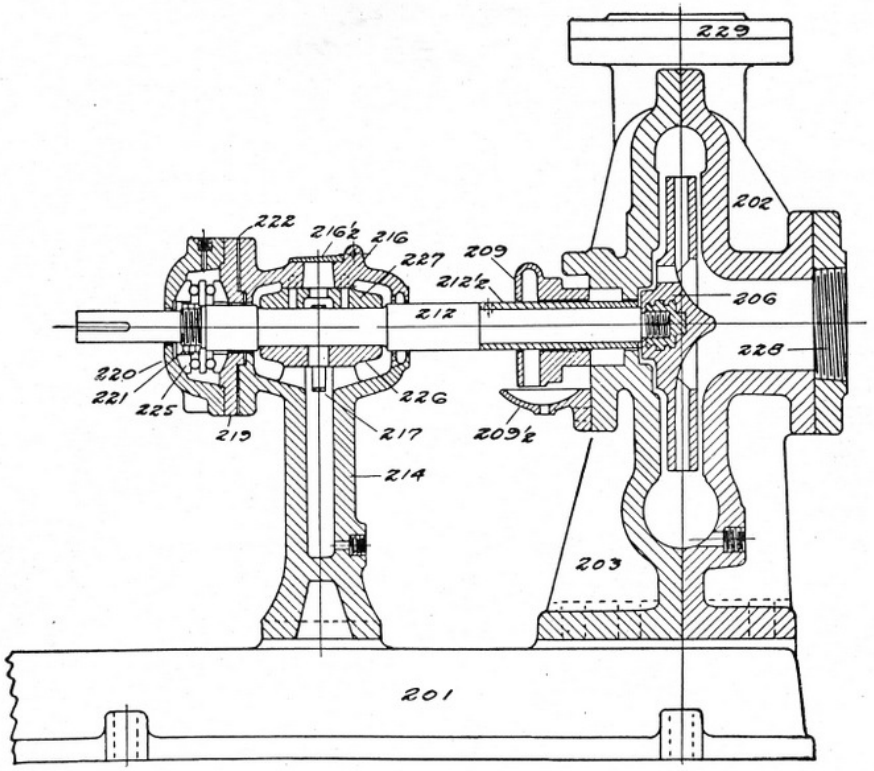


Fig. 973
Sectional View

Part No.	Name of Part
201	Sub-Base.
202	Suction Half Shell.
203	Stuff. Box Half Shell.
206	Impeller.
209	Gland.
209½	Drip Box.
212	Shaft.
212½	Shaft Sleeve.
214	Bearing Stand (with flange).
216	Bearing Cap.
216½	Oil Cover.
217	Oil Ring.
219	Thrust Support Plate.
220	Thrust Cover.
221	Shaft Thrust Nut.
222	Sheet Iron Shims.
225	Complete Ball Bearings.
226	Lower Half Bearing Shell.
227	Upper Half Bearing Shell.
228	Suction Companion Flange.
229	Discharge Companion Flange.

In ordering repair parts advise serial number of pump, name and number of parts wanted, and material of which parts are to be made.

Buffalo Acid Pumps

Code Word, Single Pump, Tight and Loose Pulleys.			Figue Number	Size of Pump, Inches	Pipe Sizes, Inches		Capacity—Gallons per Minute	Size of Tight and Loose Pulleys, Inches		Approximate Floor Space, Inches, Single Pump, Tight and Loose Pulleys.
Iron Pump	Lead Pump	Bronze Pump			Suction	Discharge		Diameter	Face	
MPTIM	MPTUP	MPVIN	965	1½	1½	1½	55	5	5	39x14
MQBFO	MQBJU	MQBUK	965	2	2	2	100	5	5	39x14
MQERK	MQFAJ	MQFIL	965	3	3	3	225	6	5	40x19
MQEWX	MQFBR	MQFCR	965	4	4	4	400	8	8	42x21

Add Code Word JCWAF for Motor Base and Flanged Coupling.

Add Code Word JCWBC for Two Stage Pump.

Add Code Word JCWCD if Connecting Pipe is wanted between stages on a two stage pump.

SPEEDS IN REVOLUTIONS PER MINUTE (R. P. M.) AND PER CENT EFFICIENCY (% EFFICIENCY) FOR SINGLE PUMP.

Size of Pump, Inches	Capacity—Gallons per Minute		Total Head in Feet												
			10	15	20	25	30	35	40	45	50	55	60	65	70
1½	55	Minimum R.P.M.	890	1025	1150	1250	1345	1450	1540	1625	1700	1780	1850	1920	1990
		Maximum R.P.M.	1420	1640	1835	2000	2165	2320	2460	2500	2500	2500	2500	2500	2500
		% Efficiency	22	23	24	25	26	26	26	26	26	26	26	25	24
2	100	Minimum R.P.M.	1025	1150	1260	1360	1450	1535	1620	1700	1780	1850	1920	1990	2025
		Maximum R.P.M.	1635	1830	2000	2165	2320	2450	2500	2500	2500	2500	2500	2500	2500
		% Efficiency	23	25	26	27	28	29	30	30	30	30	29	29	28
3	225	Minimum R.P.M.	800	900	990	1010	1145	1215	1285	1345	1400	1470	1525	1575	1625
		Maximum R.P.M.	1330	1500	1650	1785	1900	2000	2000	2000	2000	2000	2000	2000	2000
		% Efficiency	24	26	28	30	32	33	34	36	37	38	39	40	40
4	400	Minimum R.P.M.	730	820	900	970	1040	1100	1165	1225	1280	1335	1385	1435	1480
		Maximum R.P.F.	1000	1120	1230	1330	1430	1520	1600	1680	1755	1825	1900	1900	1900
		% Efficiency	26	28	30	32	35	38	42	45	48	49	50	51	51

For Pulley Drive, use Minimum Speeds.

For Direct Connection to Motor, use any speed between minimum and maximum to suit speed of motor.

For Two Stage Pumps, divide total pumping head into two equal parts or stages and apply speed per stage as above for single pumps. **For example:** 2″ pump, 100 feet head or 50 feet per stage. Minimum speed 1780 R.P.M. efficiency 30 per cent.

Speeds and Efficiencies given will apply for liquids of any specific gravity, providing such liquids are not thicker nor more viscous than water, in which case particulars should be referred to our engineering department.

Example: 2″ Single Pump, 100 G.P.M., 50 feet head, any speed between 1780 R.P.M. and 2500 R.P.M. 60 degree Baume or 1.706 specific gravity.

$$\text{Brake Horse Power} = \frac{100 \text{ G.P.M.} \times 50 \text{ ft.} \times 1.706 \text{ S. G.} \times 8.33}{33000 \times .30 \text{ Eff.}} = 7.2 \text{ B.H.P.}$$

Form 958 2-20 H. G 3m

SCANNED BY: AEM OF LOCKPORT NY USA

POSTED ON: SEPTEMBER 27, 2016

EDITED BY: BRIAN D. SZAFRANSKI

ELMA, NEW YORK USA

COURTESY OF: WESTERN NY GAS & STEAM ENGINE ASSOCIATION

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NOTE: ORIGINAL DOCUMENT HAD WATER DAMAGE